



# Experience of development and management of interprofessional education courses: a case study of an IPE center CHA IPE Bridge

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**Purpose:** Since the World Health Organization began recommending interprofessional education (IPE) in 2007, it has been applied to all fields of health care related education worldwide. There is an emerging need for IPE in Korea in the context of developing strategies for continuous quality control and improvement of medical services in hospitals and especially avoidance of patient safety. However, despite its importance and necessity, IPE in Korea appears to remain in its starting stage. The aim of this study is to introduce “CHA IPE Bridge”, a center for IPE that was established CHA University in Korea in 2018.

**Methods:** According to the subject and purpose of this study, I have to conduct a “case study” with “literature search” as a basic research method. After conducting a literature (books and articles) & websites search on the history and trends of IPE in the world and the current status of IPE in Korea, I intend to examine the status and meaning of the CHA IPE Bridge based on those backgrounds.

**Results:** According to Harden’s 11 steps of IPE, IPE courses and programs developed CHA IPE Bridge have reached the level of “multidisciplinary” belonging to the ninth step. In fact, few cases in Korea have achieved that level of IPE. Furthermore, CHA IPE Bridge develops IPE courses that go beyond the range of doctors and nurses to other occupations related to the field of health care. In view of such differences, the introduction of CHA IPE Bridge is expected to provide a positive stimulus to other universities in Korea.

**Conclusion:** The greatest achievement of this study is that the CHA IPE Bridge’s status in the field of domestic and international medical education and its positive impact has been revealed. Although this case only shows examples of the development and operation of IPE programs at the undergraduate level, it can be seen that even in Korea, if the operation strategy is well established, the application of IPE is never impossible.

**Key Words:** Interprofessional education, Patient-centered, Patient safety, Problem-based learning, Community-based

## Introduction

Since the World Health Organization (WHO) began recommending interprofessional education (IPE) in 2007 [1,2], it has been applied to all fields of education related

to health care worldwide [3]. IPE is an educational program designed to strengthen the “patient-centered” collaboration of workers in various fields of health and medical care. IPE began in the 1960s, long before WHO officially announced its recommendation in 2007 [1,4]. The IPE program was initially developed as part of

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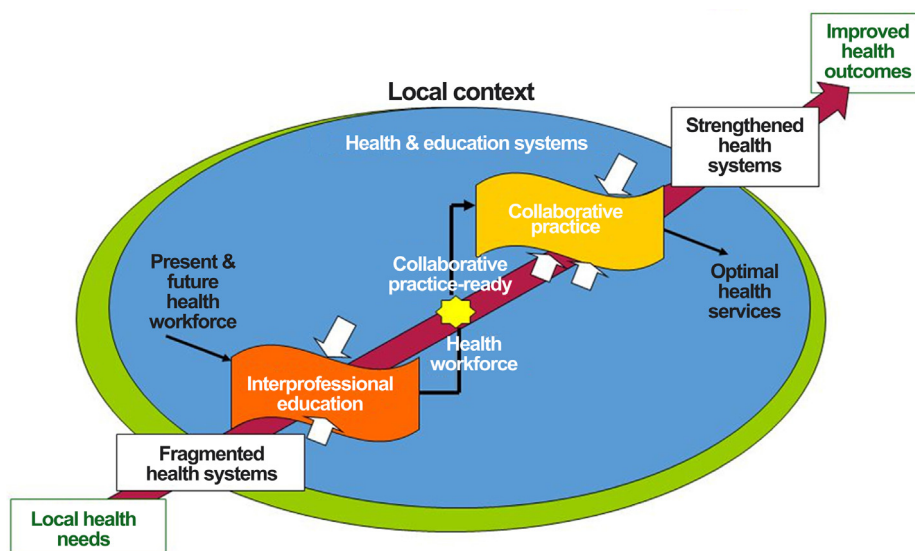
continuing education for professionals with licenses. However, gradually, the need for such education from the level of undergraduate began to emerge. At first, sporadic attempts were made in the United Kingdom [4,5]. The Journal of Interprofessional Care was founded in England in 1986 [6], and a year later the “Centre for the Advancement of Interprofessional Education” [7]. Then in Canada, the University of British Columbia established the College of Health and Training to conduct the first IPE in 2001 [8]. In the United States, several health-related universities established an organization called “Interprofessional Education Collaboration” in 2009 [9]. Now, interest in IPE is growing worldwide, recently on continents of South America [3], Africa, Asia, and so forth. The WHO Study Group engaged various partners and undertook a program of work that culminated in publication of the WHO’s “Framework for Action on Interprofessional Education and Collaborative Practice” in March 2010 [2]. The Framework highlights the current status of interprofessional collaboration around the world, and identifies the mechanisms that shape successful col-

laborative teamwork.

According to Fig. 1, the purpose of IPE is to improve health outcome by satisfying local health needs. This means that collaborative practice would ultimately be possible by efforts to integrate fragmented health systems in the field of local health through IPE. It is important to understand that through these efforts with IPE the effectiveness of the health system would become much stronger compared to the case where IPE was not implemented [2] (Fig. 1).

Similar to overseas medically advanced countries, there is an emerging need for IPE in Korea in the context of developing strategies for continuous quality control and improvement of medical services in hospitals [4,10]. Considering the reality that advanced foreign countries have applied IPE since the 1960s, and IPE has been actively implemented in Japan, Southeast Asia, and Africa since 2007, the application of IPE in Korea is an enormous assignment, which is urgently needed. Despite its importance, necessity and urgency, IPE in Korea appears to remain in its starting stage, when compared with cases worldwide. Based on this awareness of the

Fig. 1. World Health Organization Interprofessional Education Model (2010)



From World Health Organization. Framework for action on interprofessional education and collaborative practice. Geneva: World Health Organization; 2010 [2].

problem, the purpose of this study is to introduce to the academic community of medical education in Korea experiences of establishing “CHA IPE Bridge”, a center for development and conduct of various IPE courses or programs that has been established and successfully managed at CHA University since 2018. According to Harden’s 11 steps of IPE [1], educational program development cases of CHA IPE Bridge have reached the level of “multi-disciplinary”, belonging to the ninth step. Additionally, CHA IPE Bridge develops IPE courses that go far beyond the range of doctors and nurses to other occupations related to health care. In view of such differences, introduction of CHA IPE Bridge is expected to have a positive impact and provide stimulus to other universities in Korea.

## Methods

The subject of this study is to introduce a case of CHA IPE Bridge, and the IPE curriculum, especially three courses with credit and one non-credit program developed or applied by this center. The purpose of this study is to compare the case of CHA IPE Bridge with the general status of IPE in Korea and abroad, and to clarify the achievements of this center and its position both in domestic and foreign academic society of medical education.

According to the subject and purpose of this study, I have to conduct a “case study” with “literature search” as a basic research method. After conducting a literature (books and articles) & websites search on the history and trends of IPE in the world and the current status of IPE in Korea, I intend to examine the status and meaning of the CHA IPE Bridge based on those backgrounds.

## Results

### 1. IPE in South Korea

In the cases of representative foreign countries, especially the United States and the United Kingdom, IPE cases are actually concentrated in the level of continuing education among experts with license in health care institutions, that is, hospitals and social welfare institutions. Usually, a training course is provided at a center with regular IPE curriculum, and after completing this program for about 1 year, a certificate is granted. Some hospitals require this certificate as a qualification for employment. It can be said that IPE has established as an essential curriculum in the field of health care in those countries. However, IPE in Korea is usually conducted as a pilot program at the undergraduate level, which in most cases without credits [11–13]. In a case of an IPE program only medical students participate and play both the role of doctor and nurse [12], which belongs to 1st level of Harden’s 11 steps [1,12].

Difficulty in applying IPE in the health care field in Korea can be attributed to four main causes. First, the curriculum system of departments in health care-related majors is rigid and conservative, so that flexible transformation is difficult. Second, the burden of instructional hours required in each health care curriculum is relatively high compared to other fields. Coordination of time among departments for convergence with other departments is never simple. Third, cooperation among departments is difficult, due to a constantly dominating hierarchical order among major fields in the Korean health care field. Fourth, if you want to develop a program by integrating multiple majors, the number of participating students far exceeds

at least 150 even if only two departments are combined.

On the other hand, in IPE held at CHA University, students from medical and nursing colleges are actually participating in the program, and it is settled as a regular course with credits from both departments. Furthermore, CHA University is developing and implementing programs by extending IPE beyond just the medical and nursing departments to other adjacent fields. In fact, such extended attempts are not often found in overseas cases.

## 2. CHA IPE Bridge: center for IPE at CHA University

The history of CHA IPE Bridge began with “CHAgora Forum”, which was conducted in 2018. CHAgora Forum, an IPE convergence course for students in the first and second year of the school of medicine and the second year of the nursing department, has been implemented as a regular course, which has operated successfully for three years until 2020. Since the success of CHAgora Forum, IPE gradually spread to other departments within our university.

Compared to other medical schools in Korea, CHA University has some advantages in the application of IPE. First, flexibility of the curriculum: Since the medical department is established in the form of a medical graduate school, the curriculum can be relatively

flexible compared to other medical schools. Second, the appropriate number of students: For example, the total number of students in the first and second grades of medical school is only 80, so that implementation of a student-centered learning method can be relatively easily. Third, easy cooperation among departments: The collaboration between professors is very active. In particular, professors of leading groups of CHA IPE Bridge are affiliated with multiple departments at the same time, which facilitates cooperation among professors of various departments.

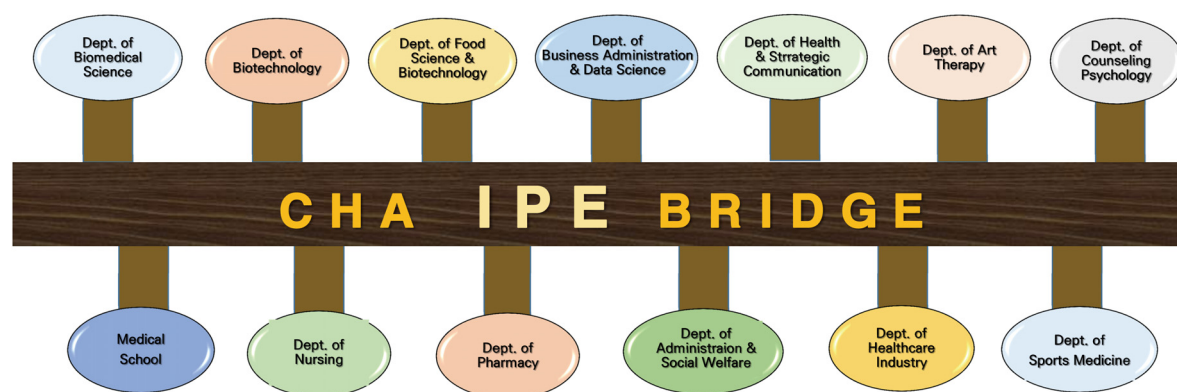
### 1) Vision and mission of CHA IPE Bridge

Regarding vision and mission, CHA University aims to contribute to the health and welfare of mankind by cultivating experts specialized in the fields of bio-health and bio-engineering with problem-solving and con-

Fig. 2. Five Educational Objectives of CHA IPE Bridge



Fig. 3. Departments Affiliated with CHA IPE Bridge



Dept.: Department.

vergence capabilities. CHA IPE Bridge is based on this vision and mission, and focuses on “patient”, “problem”, “situation”, and “task” with strong emphasis on “community service”. CHA IPE Bridge implements various courses and programs developed mainly to achieve five educational objectives, “professionalism”, “communication”, “bioethics”, “teamwork”, and “problem solving ability”, which are soft skills or values, exactly what WHO has wanted to achieve through IPE since 2007 (Fig. 2).

CHA IPE Bridge has been developing and managing curriculum, courses, and programs, with collaboration among professionals from various departments. In that sense, in order to help effectively achieve the above mentioned objectives, CHA IPE Bridge plays the role of a “bridge” to enable close convergence and collaboration among 13 healthcare related sub-fields currently open at our university (Fig. 3).

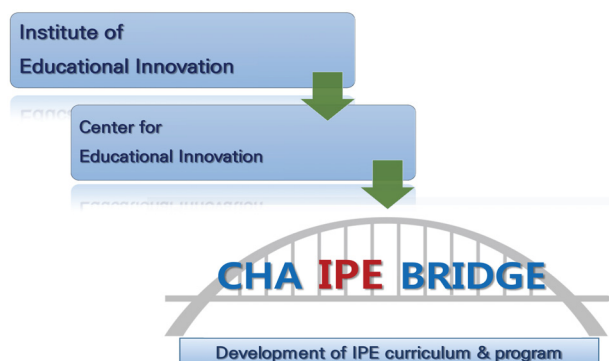
## 2) Organization of CHA IPE Bridge

CHA IPE Bridge is hosted by the “Center for Educational Innovation” under the “Institute of Educational Innovation” established at our university. The head of the Center for Educational Innovation plays the role of leader, who develops and manages IPE convergence courses through collaboration with professors from 13 departments of CHA University (Fig. 4).

## 3) IPE courses and programs of CHA IPE Bridge

Here, I will discuss four courses or programs

Fig. 4. Organization of CHA IPE Bridge



IPE: Interprofessional education.

developed at CHA IPE Bridge as an example. Three of the four are official courses with credits, and one is a non-credit program. Two of the three official courses have been developed and are already being implemented. Because community service to students is the main activity, the remaining course has been put on hold due to the corona crisis. One non-credit program has not yet been implemented, because “action learning” is applied as a teaching method and students visit external organizations.

### a. CHAgora Forum

The program is named “CHAgora Forum” by combining the “CHA” of our university and the word “agora” and “forum”, a plaza used as a public sphere in ancient Greece. “CHAgora Forum” is organized in a way that solves “problems” such as medical accidents and human rights and safety of medical personnel, situations that frequently occur in the medical field. The teaching method applied to this course is problem-based learning (PBL). This program is attended by first (n=40) and second year students (n=40) of the Medical School and second year students (n=70) of the Nursing Department. A total of 150 students are divided into four classes by mixing two majors evenly, and a tutor is assigned to each class. Each class is again divided into six small groups, and three modules are given as a “problem” to each class. The PBL session is divided into three, and the purpose of the last session is to share the results with other group members by taking the form of a real “forum”. In particular, the CHAgora Forum, held in December 2020, was conducted using a 100% non-face-to-face method with a Zoom platform according to the coronavirus disease 2019 quarantine guidelines, which was very successful.

### b. CHARITY Project

“CHARITY” stands for “CHA Regional, Interprofessional, and Team-based Year-round”, and refers to a

team-based community service project conducted by medical, nursing, and sports medicine students over a 1-year period. This course is based on voluntary activities at the health care level. In particular, the goal of the core activities is for students to identify and recognize “community needs” and fill them through volunteer activities. This program is scheduled to open every year and end with a big festival in the first semester of the following year. A group of students from the three departments mentioned above do volunteer work year round with a total of 30 hours per year (one credit of practice). Students are allowed to autonomously decide on the subject of volunteer work, and as the evaluation type we decided on the pass/fail method. Pocheon, the area around the campus, was established as the area where students perform volunteer work. A total of 140 to 160 students are expected to be opened in the first year of medical school (n=40), the second year of nursing (n=80), and the third and fourth year of sports medicine (n=80). The group is organized into 16 groups by combining students from three departments.

#### c. Functional Food and Exercise

“Functional Food Science and Exercise” is an IPE fusion course between the Department of Food Science and Biotechnology and Sports Medicine. It involves the study of functional foods and the functionality of foods, and its effects on exercise physiology and nutritional aspects of exercise by the human body and health life extension. In the fourth industrial era, when incomes increased, more detailed study of the effects of functional foods, which are the sixth industry, on exercise performance and health is important to efforts to improve human health. Based on this background and necessity, an IPE course was developed to study functional foods and the functionality of foods, and to study their effects on exercise physiology and nutritional performance of the human body or on improving health

and extending life. As major courses in the Department of Food Science and Biotechnology and the Department of Sports Medicine, teams of students are organized together to conduct discussions and practice. The learning method is “team teaching” and “student participation”. Team teaching involves the participation of two professors from the Department of Food Science and Biotechnology and the Department of Sports Medicine.

#### d. Cross Culture

Originally, among the major courses in the Department of Business Administration and Data Science, there was a need to develop a course called “Cross-Culture” by professors with various academic and cultural backgrounds using a team-teaching method, with a need to manage it in collaboration with the Department of Health and Strategic Communication. Accordingly, the two departments mentioned above initially attempted to implement a non-credit program managed by professors from various subjects. As a teaching method, we plan to use PBL and “design thinking”, which involves conduct of overseas promotion and marketing projects of health and beauty products and health services, and with the design thinking method students get consultation from experts outside the school to confirm the quality of the developed public relations and marketing strategy.

IPE courses with credits and non-credit programs developed and managed by CHA IPE Bridge since 2018 are as follows (Table 1).

### 4) Findings

Through the introduction of the CHA IPE Bridge construction case at a university described above, the following meaning could be found. First, despite the difficult situation in which IPE is difficult to implement, it is possible to establish an IPE curriculum in Korea, if the operation strategy is well developed. Second, for the



Table 1. IPE Courses with Credits and Non-credit Program of CHA IPE Bridge

Title	Teaching method	Department	Credit	Grade
CHAgora Forum	Problem-based learning	Medical School	1	1 + 2
		Nursing	1	2
CHARITY Project	Project method: action learning	Medical School	1	1 + 2
		Nursing	1	1
		Sports Medicine	1	4
Food Science and Exercise	Project method: action learning	Food Science	4	3, 4
		Sports Medicine	4	3, 4
Cross Culture	Design thinking	Business Administration and Data Science	None	3, 4
		Health and Strategic Communication	None	3, 4
		Liberal Arts Education Center	None	3, 4

IPE: Interprofessional education.

successful development and cooperative operation of IPE, the establishment of an IPE center that serves as a bridge between various departments is essential. Third, the CHA IPE Bridge has the experience of developing a “community-based” program such as “CHARITY Project”, which purpose is exactly the same as WHO’s of IPE. Fourth, IPE programs can be implemented not only in the health care sector, but also in other sectors more broadly. Fifth, the fact that educational methods such as PBL, project-based learning, and action learning are mainly applied to programs developed by CHA IPE Bridge to improve future competencies is very encouraging from the perspective of medical education. Sixth, even in the IPE program centered on student-led small group activities, it was possible to operate by applying the tool of the non-face-to-face “un-tact” method.

## Discussion

The main advantage of the IPE curriculum is the convergence effect between various fields. This is an important keyword that would be required to adequately respond to the current and future health care environment, which is becoming increasingly globalized,

emerging as a new type of disaster. Especially after the pandemic, future medical fields worldwide are required to achieve higher quality of medical services and patient safety through efficient and effective collaboration between medical professionals as essential labor force. A research has shown that nurturing the identity and strong self-awareness of health care professionals from undergraduate level would be very beneficial in reinforcing professionalism of healthcare experts [14]. Through this case study, the history of the CHA IPE Bridge, which has been established and operated as an IPE center since 2018 at a university in Korea, and the IPE courses and educational programs developed and operated are introduced. The greatest achievement of this study is that the CHA IPE Bridge’s status in the field of domestic and international medical education and its positive impact has been revealed. Although this case only shows examples of the development and operation of IPE programs at the undergraduate level, it can be seen that even in Korea, if the operation strategy is well established, the application of IPE is never impossible.

Despite the above mentioned achievements, this study has distinct limitations, especially in its research methods. As mentioned in the section on the above research method, this study is primarily aimed at a case of the establishment of an IPE center at a university.

Accordingly, this study did not include specific empirical study subjects such as verification of the educational effect of the IPE curriculum conducted at the above center. This is considered to be the biggest limitation of this study. In order to overcome the above-described limitations, I plan to conduct studies with more detailed study dealing with various subjects in the future, particularly such as various teaching methods applied to the IPE curriculum, their educational effectiveness, and specific future-oriented competences of students to be cultivated based on IPE course or program.

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